

What is claimed is:

1. A semiconductor device comprising:

a semiconductor substrate having a first conductive layer provided

5 therein;

an insulation layer provided above the semiconductor substrate;

a semiconductor layer provided above the insulation layer; and

a second conductive layer provided above the semiconductor layer

or in the semiconductor layer, and electrically connected to the first

10 conductive layer.

2. The semiconductor device as defined by claim 1,

wherein the first conductive layer is formed from an impurity layer.

15 3. The semiconductor device as defined by claim 1,

wherein the first conductive layer functions as a wiring layer.

4. The semiconductor device as defined by claim 1,

wherein the first conductive layer functions as a resistance layer.

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5. The semiconductor device as defined by claim 1,

wherein a connection hole is provided for connecting the first
conductive layer to the second conductive layer, and

wherein a contact layer is provided in the connection hole.

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6. The semiconductor device as defined by claim 1,

wherein a side wall is provided in the connection hole.

7. A semiconductor device comprising:
a semiconductor substrate having a contact region provided therein;
an insulation layer provided above the semiconductor substrate; and
5 a semiconductor layer provided above the insulation layer; and
a conductive layer provided above the semiconductor layer or in the
semiconductor layer, and has a function of allowing charge to flow into
the semiconductor substrate, said contact region being electrically
connected to said conductive layer.

10 8. The semiconductor device as defined by claim 7,
wherein the contact region is formed from an impurity layer.

9. The semiconductor device as defined by claim 7,
15 wherein a pn junction is formed by the contact region and the
semiconductor substrate.

10. The semiconductor device as defined by claim 9,
wherein the semiconductor substrate is n-type, and
20 wherein the contact region is p-type.

11. The semiconductor device as defined by claim 9,
wherein the semiconductor substrate is p-type, and
wherein the contact region is n-type.

25 12. The semiconductor device as defined by claim 7,
wherein a connection hole is provided for connecting the contact

region to the conductive layer, and

wherein a contact layer is provided in the connection hole.

13. The semiconductor device as defined by claim 12,

5 wherein a side wall is provided in the connection hole.

14. A semiconductor device comprising:

a semiconductor substrate having a first electrode provided therein;

an insulation layer provided above the semiconductor substrate;

10 a semiconductor layer provided above the insulation layer, the
semiconductor layer having a second electrode provided therein; and
the first electrode, the second electrode, and the insulation layer
in cooperation turning a capacitive element.

15 15. The semiconductor device as defined by claim 14,

wherein the first electrode is formed from a first impurity layer.

16. The semiconductor device as defined by claim 14,

wherein the second electrode is formed from a second impurity layer.

20 17. The semiconductor device as defined by claim 14,

wherein the first electrode is connected electrically to a conductive
layer provided above the semiconductor layer or in the semiconductor layer.

25 18. The semiconductor device as defined by claim 17,

wherein a connection hole is provided for connecting the first
electrode to the conductive layer, and

wherein a contact layer is provided in the connection hole.

19. The semiconductor device as defined by claim 18,
wherein a side wall is provided in the connection hole.

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20. A method of manufacturing a semiconductor device, the semiconductor device including a semiconductor substrate, an insulation layer provided above the semiconductor substrate, and a semiconductor layer provided above the insulation layer, the method comprising:

10 a step of implanting ions of an impurity into a predetermined region of the semiconductor substrate and forming a first conductive layer from the resulting impurity layer; and

a step of electrically connecting a second conductive layer provided above the semiconductor layer or in the semiconductor layer to the first
15 conductive layer.

21. The method of manufacturing a semiconductor device as defined by claim 20,

wherein the first conductive layer functions as a wiring layer.

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22. The method of manufacturing a semiconductor device as defined by claim 20,

wherein the first conductive layer functions as a resistance layer.

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23. The method of manufacturing a semiconductor device as defined by claim 20, further comprising:

a step of forming a connection hole for electrically connecting the

first conductive layer to the second conductive layer; and
a step of forming a contact layer in the connection hole.

24. The method of manufacturing a semiconductor device as defined by
5 claim 23, further comprising:

a step of forming a side wall in the connection hole.

25. A method of manufacturing a semiconductor device including a
semiconductor substrate, an insulation layer provided above the
10 semiconductor substrate, and a semiconductor layer provided above the
insulation layer, wherein a contact region is provided in the semiconductor
substrate, and the contact region is connected electrically to a conductive
layer provided above the semiconductor layer or in the semiconductor layer,
and has a function of allowing charge to flow into the semiconductor
15 substrate, the method comprising:

a step of forming the contact region by implantation of ions of an
impurity into the semiconductor substrate; and

a step of electrically connecting the contact region to the
conductive layer.

20 26. The method of manufacturing a semiconductor device as defined by
claim 25, further comprising:

a step of forming a contact hole for electrically connecting the
contact region to the conductive layer formed in the semiconductor layer;

25 and

a step of forming a contact layer in the connection hole.

27. The method of manufacturing a semiconductor device as defined by claim 26, further comprising:

a step of forming a side wall in the connection hole.

28. A method of manufacturing a semiconductor device including a semiconductor substrate, an insulation layer provided above the semiconductor substrate, and a semiconductor layer provided above the insulation layer, the method comprising:

a step of forming a capacitive element, wherein the capacitive element is formed from a first electrode provided in the semiconductor substrate, the insulation layer, and a second electrode provided in the semiconductor layer,

wherein the step of forming the capacitive element comprises a step of implanting ions of an impurity into the semiconductor substrate to form the first electrode from a first impurity layer.

29. The method of manufacturing a semiconductor device as defined by claim 28,

wherein the step of forming the capacitive element further comprises a step of implanting ions of an impurity into the semiconductor layer to form the second electrode from a second impurity layer.

30. The method of manufacturing a semiconductor device as defined by claim 28,

wherein the semiconductor device has a conductive layer provided above the semiconductor layer or in the semiconductor layer, and

wherein the method further comprises:

a step of forming a connection hole for electrically connecting the first electrode to the conductive layer; and

a step of forming a contact layer in the connection hole.

- 5 31. The method of manufacturing a semiconductor device as defined by claim 30, further comprising a step of forming a side wall in the connection hole.